

CLAIM AMENDMENTS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-30. (Cancelled).

31. (New) A method, comprising:
receiving a first video object plane (VOP);
determining that the first VOP is a first predictive coded VOP (P-VOP);
storing a first order number indicating an encoded order of the first P-VOP at a P-VOP queue, wherein the encoded order indicates an order in which the first P-VOP was encoded relative to a plurality of other VOPs;
receiving a second video object plane (VOP) after receiving the first VOP;
determining that the second VOP is not a predictive coded VOP (P-VOP);
storing a second order number indicating an encoded order of the second VOP at a display ordered read queue;
receiving a third video object plane (VOP) after receiving the first VOP;
determining that the third VOP is a second predictive coded VOP (P-VOP);
storing the first order number at the display ordered read queue; and
storing a third order number indicating an encoded order of the second P-VOP at the P-VOP queue.

32. (New) The method of claim 31, wherein the second VOP includes an intra coded VOP (I-VOP) or a bidirectional predictive coded VOP (B-VOP).

33. (New) The method of claim 31, wherein one or more additional VOPs are received between the first VOP and the second VOP.

34. (New) The method of claim 31, wherein one or more additional VOPs are received between the second VOP and the third VOP.

35. (New) The method of claim 31, further comprising displaying the first VOP, the second VOP and the third VOP in a display order according to an order of the respective order numbers in the display ordered read queue.

36. (New) A method, comprising:
receiving a video object plane (VOP);
decoding the received VOP to generate a decoded VOP;
storing an order number of the decoded VOP at a P-VOP queue when the received VOP is a predictive coded VOP (P-VOP); and
storing the order number of the decoded VOP at a first available location of a display ordered read queue when the received VOP is not a P-VOP.

37. (New) The method of claim 36, further comprising determining a type of the received VOP, wherein the type of the received VOP is one of a P-VOP, an intra coded VOP (I-VOP), and a bidirectional predictive coded VOP (B-VOP).

38. (New) The method of claim 36, further comprising determining whether an order number of a previously received P-VOP is stored at the P-VOP queue.

39. (New) The method of claim 38, wherein the P-VOP queue is associated with a P-VOP queue flag that indicates whether an order number is stored at the P-VOP queue.

40. (New) The method of claim 38, further comprising, when the order number of the previously received P-VOP is stored at the P-VOP queue, storing the order number of the previously received P-VOP at the first available location of the display ordered read queue before storing the order number of the decoded VOP at the P-VOP queue.

41. (New) The method of claim 36, further comprising setting a P-VOP queue flag in response to storing the order number of the decoded VOP at the P-VOP queue.

42. (New) The method of claim 36, further comprising reading a plurality of stored VOPs from memory according to an order of the order numbers stored at the display ordered read queue.

43. (New) The method of claim 36, further comprising storing the decoded VOP at a memory.

44. (New) The method of claim 36, further comprising, before storing the order number of the decoded VOP, determining whether a memory storing one or more VOPs has available capacity to store the decoded VOP.

45. (New) The method of claim 44, further comprising, when the memory does not have available capacity to store the decoded VOP and the decoded VOP is not a P-VOP, discarding the decoded VOP.

46. (New) The method of claim 44, further comprising, when the memory does not have available capacity to store the decoded VOP and the decoded VOP is a P-VOP, storing the order number of the decoded VOP at the P-VOP queue.

47. (New) The method of claim 46, further comprising:
before storing the order number of the decoded VOP at the P-VOP queue, determining whether an order number of a previously received P-VOP is stored at the P-VOP queue; and
when the order number of the previously received P-VOP is stored at the P-VOP queue, discarding the previously received P-VOP.

48. (New) The method of claim 44, wherein whether the memory has available capacity to store the decoded VOP is determined based on a memory flag.

49. (New) An image processing device for determining a display order of incoming video object planes (VOPs), the image processing device comprising:
a VOP detector to determine whether an incoming VOP is an intra coded VOP (I-VOP), a predictive coded VOP (P-VOP), or a bidirectional predictive coded VOP (B-VOP); and
control logic to form a VOP display order of the incoming VOP, wherein when the incoming VOP is a P-VOP, the incoming VOP is assigned to a location at a P-VOP queue, and wherein when the incoming VOP is not a P-VOP, the incoming VOP is assigned to a next available location of a display ordered read queue.
50. (New) The device of claim 49, further comprising:
a decoder to decode the incoming VOP; and
a memory to store the decoded VOP.
51. (New) The device of claim 50, further comprising a reader to read stored VOPs in an order according to the display order specified by the display ordered read queue.
52. (New) The device of claim 50, wherein the memory comprises one of a random access memory (RAM), a dynamic random access memory (DRAM), a static random access memory (SRAM) and a flash memory.
53. (New) The device of claim 49, wherein only one P-VOP can be assigned to the P-VOP queue at a time.
54. (New) The device of claim 49, wherein the control logic determines whether a previous P-VOP is assigned to the P-VOP queue before assigning the incoming VOP to the P-VOP queue.
55. (New) The device of claim 54, wherein, when the previous P-VOP is assigned to the P-VOP queue, the control logic assigns the previous P-VOP to the next available location of the display ordered read queue before assigning the incoming VOP to the P-VOP queue.
56. (New) The device of claim 49, further comprising an auxiliary VOP management unit to determine parameters for dropping the incoming VOP.

57. (New) The device of claim 49, further comprising an auxiliary VOP management unit to determine whether a memory has sufficient capacity to store the incoming VOP.

58. (New) The device of claim 49, further comprising a counter to count a number of VOPs received.

59. (New) The device of claim 58, wherein the VOPs are received in an order in which the VOPs were encoded.